

BRIDGE MANAGEMENT INFORMATION SYSTEM

05 Dec 2016

DJW

Condition Inspection Report

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

RFI: 07-B-6-00001 - Rte 1 EB - TransCanada - ON

Features Crossed: TRANS CANADA/HUNTINGTON-ABBOTS

07-B-6-00001W - Rte 1 WB - TransCanada - ON

07-B-6-00011 - Rte 11 NB - Huntington-Mission -
UNDER07-B-6-00011S - Rte 11 SB - Mission-Huntington -
UNDER**Component Group/Component**

E

G

F

P

V

X

N/A

HYDROTECHNICAL :

| | | | | | | | | |
|----|--------------------|-----|--|----|----|--|--|---|
| 1. | Debris Risk | 100 | | | | | | N |
| 4. | Substructure Scour | 70 | | 10 | 20 | | | N |

SUBSTRUCTURE :

| | | | | | | | | |
|-----|--------------------------|----|----|----|----|--|--|---|
| 5. | Foundation Movement | 99 | | 1 | | | | N |
| 6. | Abutments | | 95 | 5 | | | | N |
| 7. | Wing/Retaining Walls | | 99 | | 1 | | | N |
| 10. | Pier Columns/Walls/Cribs | | 95 | 3 | 2 | | | N |
| 11. | Bearings | | | 50 | 50 | | | N |

SUPERSTRUCTURE :

| | | | | | | | | |
|-----|---------------------|-----|----|---|---|---|--|---|
| 17. | Girders | | 85 | 9 | 4 | 2 | | N |
| 19. | Bracing/Diaphragms | | 95 | 3 | 2 | | | N |
| 27. | Camber/Sag | 100 | | | | | | N |
| 28. | Live Load Vibration | 100 | | | | | | N |

DECK :

| | | | | | | | | |
|-----|---------------------|--|-----|----|----|--|--|---|
| 30. | Sub Deck/Cross Ties | | 99 | 1 | | | | N |
| 31. | Wearing Surface | | 99 | 1 | | | | N |
| 32. | Deck Joints | | 50 | 20 | 30 | | | N |
| 33. | Curbs/Wheelguards | | 100 | | | | | N |
| 35. | Railings/Parapets | | 99 | 1 | | | | N |
| 36. | Median Barrier | | 99 | 1 | | | | N |
| 37. | Drains/Pipes | | 100 | | | | | N |

APPROACHES :

| | | | | | | | | |
|-----|--------------------|----|----|----|----|----|--|---|
| 39. | Signing/Lighting | 50 | | | | 50 | | N |
| 40. | Roadway Approaches | 80 | 19 | 1 | | | | N |
| 41. | Roadway Flares | | | 50 | 50 | | | N |

1st Abutment Position: E

Year Built: 1961 Estimated? ☐

Length (m): 45.974

Note: - First abutment is EAST as noted from the drawing.

Main Span Length: 15.259

Main Span Type: STRINGER

Spans: 3

Urgency: 3

BCI Rating: 1.93

Adjusted BCI Rating: 2.03

Inspector/Inspected By: Doug Wilson

On 2016/04/26

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: - downgraded from 4 to 3 due to new steel reinforcing girder 2K.
 - still multiple impact spalls on girders that require repair.

Item Notes:

4 . Substructure Scour East abutment - deep runoff channels in fill under bays 2 and 10.

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Item Notes:

6 . Abutments

First abutment - EAST.

EAST abutment:

- the abutment has been extended outward.
- numerous fine to medium vertical cracks in abutment face and across the top of the bridge seat. Brief inspection on the abutment due to people living at the abutment.
- bays 5, 6 and 7 - soot coated. Large area of medium scaling (most likely from the fire damage) in the front face of the bridge seat.

Head slope - deep runoff channels in the fill under bays 2 and 10.

WEST abutment:

- numerous medium to wide vertical cracks in the extended abutment face.

Slope protection - concrete retaining wall. Random fine vertical cracks along the wall.

7 . Wing/Retaining Walls

East abutment:

North side - OK.

South side - fine to medium diagonal crack in mid height.

West abutment:

North side wing wall - 2 diagonal cracks in the south face, large delam. in the lower half of the front face.

Retaining wall at the front of the abutment - several fine to medium horizontal and vertical cracks.

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Item Notes:

10 . Pier Columns/Walls/Cribs PIER 1:

East face:

- light delam. near the top at north side of girder 1B.
- below bay 3 - fine vertical crack near the top at north side of girder 1C. Full height med. to wide vertical crack. Fine diagonal crack near top at south of girder 1D.
- below bay 4 - half height (from ground) fine vertical crack.
- large delam. / cracks near top at north of girder 1E.
- large delam. near the top from girder 1F to north end of south pier.
- below girder 1G - large delam. near the top.
- below girder 1H - light delam. near the top.
- full height med. vertical crack at S. of girder 1I.
- medium delam. near the top at N. of girder 1I.
- below bay 10 - full height fine to medium vertical crack.
- large delam. near top at N. of girder 1K.
- below bay 11 - 2 short fine vertical cracks in the upper half of the wall.

West face:

- below bay 3 - full height medium vertical crack. Short diagonal crack near the top at south side of girder 2D.
- below bay 4 - 3/4 height medium vertical crack.
- below bay 5 - short fine / medium diagonal crack at north side girder 2E.
- below bay 8 - full height medium / wide vertical crack at south side of girder 2I.
- below bay 10 - full height fine / medium vertical crack.
- below girder J - possible delam.

Light vegetation sticking out between the ends of girders (north end).

PIER 2:

East face:

- below bay 3 - a wide full height vertical crack.
- fine vertical crack near top at north of girder 2C.
- fine vertical crack near top at south of girder 2D.
- below bay 4 - 1 fine to med. vertical crack approximately half height.
- below bay 5 - short diagonal crack near the top at north side of girder 2E.
- below bay 9 - wide full height vertical crack.
- fine / medium full height vertical crack under girder 2J.
- light delam. near top at north of girder 2K.

West face:

- medium spall / exposed rebar near top under girder 3A.
- large delam. along top corner from south side of girder 3B to south side of girder 3C.
- medium delam. in mid height below girder 3C.
- below bay 3 - wide vertical crack with large delam. in mid height.
- below girders E, G & H - diagonal cracking/ possible delam.
- full height medium vertical cracks at north of girder 3I and south of girder 3J.
- small spalls / exposed rebar in mid height at the north end & south end of the north pier.
- lined with 800mm H. no post.
- heavy water staining at girder locations.
- 2 medium delams on south end of south pier.

11 . Bearings

East abutment - light to medium corrosion on steel rocker plates. Pack rust on sole plates.

Piers 1 & 2:

- grout pad and lead sheet under girders.
- medium corrosion with pack rust on steel sole plates.

West abutment - light to medium corrosion on steel plates. Pack rust on sole plates.

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Item Notes:

17 . Girders

12 precast concrete I beam girders per span.

Span 1:

- dirt and water staining on outside face of outside girders under scuppers.

Span 2:

- all girders have scrape marks along underside of bottom flanges.
- girder 2A - 1 large & 1 light spall exposing rebar & strands on south side of bottom flange near east intermediate diaphragm (above slow lane).
 - fine cracks in the web (exterior face) at pier 1 & 2.
- girder 2B, south bottom corner - medium spall exposing rebar, east of east intermediate diaphragm.
 - couple of chips, west of east intermediate diaphragm.
- girder 2C, south bottom corner - light spall, east of east intermediate diaphragm.
- girders 2F - small patch & small chip in south bottom corner beside east edge of east intermediate diaphragm.
- girder 2G - couple of light chips in south bottom flange, east of east intermediate diaphragm.
 - small patch in bottom flange at west of east intermediate diaphragm.
- girder 2H - some light chips in south bottom flange on either side of east intermediate diaphragm.
- girder 2I at east intermediate diaphragm - light chip in south bottom corner, light spall in north bottom flange.
- girder 2J - few light chips in both bottom corner near east intermediate diaphragm.
 - Scrapes across the underside of bottom flange.
 - 2 small chips & 1 small patch in north bottom corner near west intermediate diaphragm.
- girder 2K - previous impact damage patched up.
 - medium impact spall at east intermediate diaphragm.
- girder 2L - New steel girder - 3 scrapes at east interior diaphragm.
- girder 2M - large spall exposing strands in bottom flange at north intermediate diaphragm.

Span 3:

- girder 3A - fine cracks in the web (exterior face) at pier 2.
- girder 3L - 4 light impact chip in north bottom corner above S/L & shoulder.

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Item Notes:

19 . Bracing/Diaphragms

Typical concrete diaphragms at both ends and third points in all 3 spans.

East abutment - bay 9 - fine crack / eff.

PIER 1:

East face:

- bay 1 - medium delamination in south bottom corner. A full height fine diagonal crack closer to girder A. Med. delam. / spall with exposed rebar in the north bottom corner.
- bay 2 - medium delam. in both N. & S. bottom corners.
- bay 3 - med. delam. / spall in south bottom corner. Fine vertical crack in the middle. Light delam. in north bottom corner.
- bay 4 - med. delam. / light spall in S. bottom corner. Med. Delam/light spall in N. bottom corner.
- bay 5 - light delam. / spall in N. bottom corner. Large delam. in S. bottom corner.
- bay 6 - med. delam. in N. bottom corner.
- bay 7 - med. delam. in N. bottom corner.
- bay 8 - large delam. in S. bottom corner & 2 light delams. in N. bottom corner.
- bay 9 - med. delam. / light spall in S. bottom corner & 2 light delams. in N. bottom corner.
- bay 10 - large spall / exposed rebar in S. bottom corner. Light delam. in N. bottom corner.
- bay 11 - med. delam. / light spall / exposed rebar in S. bottom corner. Medium delam. in N. bottom corner.

West face:

- bay 3 - light delam. in S. bottom corner. Fine vertical crack in the middle.
- bay 4 - light delam. in S. bottom corner.
- bay 5 - medium delam. in S. bottom corner.
- bay 8 - light delam. in N. bottom corner.
- bay 9 - light delam. in both N. & S. bottom corners.
- bay 10 - light delam. in S. bottom corner.

SPAN 2:

- bays 10 and 11 - scrapes in the undersides of the east intermediate diaphragms.

PIER 2:

East face:

- bay 2 - fine diagonal crack in S. bottom corner and light delam. in N. bottom corner.
- bay 8 - light delam. in N. bottom corner.
- bay 9 - light delam. in S. bottom corner.
- bay 10 - light delam. in N. bottom corner.
- bay 11 - medium delam. in N. bottom corner.

West face:

- bay 1 - light delam. in S. bottom corner.
- bay 3 - light spall in S. bottom corner. Medium spall / exposed rebar in N. bottom corner.
- bay 4 - light delam. in S. bottom corner. Short fine diagonal crack in N. bottom corner.
- bay 6 - light delam. in S. bottom corner.
- bay 7 - light spall in N. bottom corner.
- bay 8 - medium spall in S. bottom corner. Light spall exposing rebar in N. bottom corner.
- bay 9 - light spall in S. bottom corner. Medium spall in N. bottom corner.
- bay 10 - light spalls in N. & S. bottom corners.
- bay 11 - light spall in S. bottom corner. Light delam. in N. bottom corner.

SPAN 3 - bay 8 - west intermediate diaphragm - light chip in the west bottom corner.

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Item Notes:

30 . Sub Deck/Cross Ties

Span 1:

- south & north overhangs - rust stains from metal rebar supports.
- bay 2 - 1 diagonal crack / eff. near the abutment.
- bays 4 & 5 - 1 diagonal crack / eff. each near pier 1.

Span 2:

- bays 2 & 3 - light chloride stains between the intermediate diaphragms.
- bay 5 - 1 short transverse crack / eff. near pier 2. Light chloride stains between the intermediate diaphragms.
- bay 7 - short transverse crack near pier 1.
- bay 11 - 2 short transverse cracks / eff. with light chloride stains around in between the intermediate diaphragms.

Span 3:

- bay 6 - 1 transverse crack / eff. near mid span on the north side of the longitudinal joint.
- bay 7 - 1 diagonal crack / eff. near east intermediate diaphragm.
- bay 9 - 1 diagonal crack / eff. near west abutment.
- bay 10 - 1 long & 1 short transverse cracks / eff. near west abutment.
- bay 11 - 1 short transverse crack / eff. near west abutment.

31 . Wearing Surface

Concrete wearing surface with light wear in the travel lanes.

WESTBOUND:

- Span 1 at pier 1 joint:
- lane 1 - 5 small spalls.
- lane 2 - small spall in the south wheel path & medium spall in north wheel path.
- lane 3 - small patch at the marker of lanes 2 / 3. Medium spall in the north wheel path. Small patch in the middle of the lane. Light spall in south wheel path.

- Span 2:

- lane 1 at pier 1 joint - couple of light spalls in the north half of the lane.
- lane 2 at pier 1 joint - light spall at the marker of lanes 1 / 2. Medium spall exposing rebar in the north wheel path.

- Span 3:

- lane 1 at pier 2 joint - light spall near the fog line.
- lane 2 at pier 2 joint - light spall in the north wheel path.

EASTBOUND:

- Span 1:

- lane 1 at pier 1 joint - light patch in the middle of the lane.

- Span 2:

- lane 1 at pier 2 joint - medium patch in the north half of the lane.

- Span 3:

- lane 1 at pier 2 joint - large patch in the north half of the lane.

32 . Deck Joints

Sawcuts only with sealant at the piers.

PIER 1:

- E/B - long section of sealant missing in all 3 lanes.
- W/B - sections of sealant missing.

Sign of medium to heavy leakage below along the top of the pier shafts.

PIER 2:

- E/B - sealant mostly gone.
- W/B - sections of sealant missing.

Sign of heavy leakage below on the pier shafts at the girder locations.

33 . Curbs/Wheelguards

Concrete curb of 450mm W x 180mm H with a step of 375mm W x 145mm H for the aluminum railing.

Light scaling on the concrete curb.

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Item Notes:

- 35 . Railings/Parapets 2 rail aluminum system. 575mm high.
- North railing:
 - end cap missing at east and west ends of the lower rail.
 - top rail has light dent and scrape mark at east of 5th post.
- South railing:
 - end caps missing in west end of upper & lower rails.
- 36 . Median Barrier 750mm no post concrete barrier.
- 37 . Drains/Pipes Scuppers plugged except in span 1. Dirt building up in the scuppers.
- 39 . Signing/Lighting East approach - W54 only at east end of the north side flare.
 West approach - no W54's.
- 40 . Roadway Approaches EAST APPROACH:
 E/B:
 - slight gap between ballast wall and the approach.
 - medium transverse crack across all 3 lanes ~1m from deck.
 - lane 3 - north wheel path, long narrow pothole along deck end.
- W/B:
 - slight gap between ballast wall and the approach
 - medium full width transvers crack, ~2.5m from deck end.
 - lane 2 - both wheel paths, long narrow spalls along deck end.
 - north wheel path, area of map cracking.
- WEST APPROACH:
 E/B:
 - slight gap between ballast wall and the approach especially on lanes 1 and 2.
 - lane 1 - south wheel path, asphalt breaking up along deck end.
 - lane 2 - intermittent wide transverse cracks at about 150mm from deck end.
 - long narrow pothole along deck end.
 - lane 2 & 3 - transverse crack ~2.5m from deck end.
- W/B:
 - gap of about 50mm along the ballast wall. However, wider gap at the wheel paths of lane 2.
 - full width transverse crack ~1m from abutment.
 - lane 2 - north wheel path, small spall along deck end.
 - lane 3 - south wheel path, short transverse crack ~3m from deck end.
 - north wheel path, small spall & short transverse crack along deck end.
- 41 . Roadway Flares EAST approach:
 - north side - long 700mm no post - not attached.
 - south side - 140mm H. low curb at about 2 m. from bridge end.
- WEST approach:
 - north side - asphalt curb.
 - south side - long 700mm no post at about 8 m. from bridge end.

Item Condition Photos:

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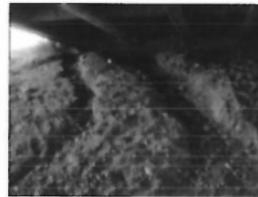
Contract Area: 7 - Fraser Valley CA

Item Condition Photos:

4 Substructure Scour



Filename: 01550 100 East abutment
20140617.JPG



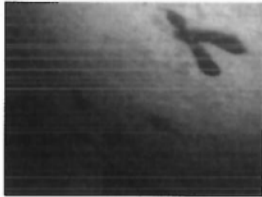
Filename: 1550 29 east abutment fill
slope under bay 9-11 medium run
off channel 20090730.JPG

6 Abutments



Filename: 1550 50 west abutment
bearing area 20090730.JPG

7 Wing/Retaining Walls



Filename: 1550 52 west abutment
north wind wall with map cracks
20090730.JPG

10 Pier Columns/Walls/Cribs



Filename: 01550 180 Pier 2_south
pier_vegetation at south end
20140617.JPG

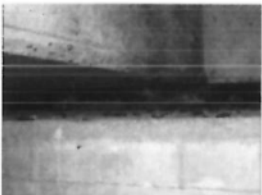


Filename: 1550 35 pier one east
side medium delams under girder
E,F and G 20090730.JPG

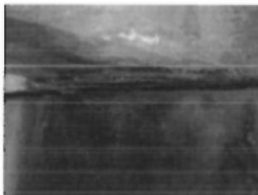


Filename: 01550 176 Pier 2_south
pier west face 20140617.JPG

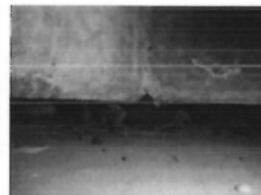
11 Bearings



Filename: 01550 112 East
abutment_bearing I 20140617.JPG



Filename: 1550 38 pier one bearing
2D with medium corrosion on sole
plate 20090730.JPG



Filename: 1550 27 east abutment
bearing B with light to medium
corrosion on masonry plate
20090730.JPG

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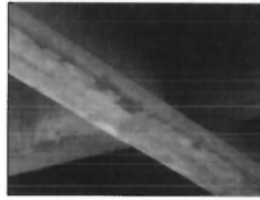
District: 1 - Lower Mainland District

Inspection Type: Routine Condition

Contract Area: 7 - Fraser Valley CA

Item Condition Photos:

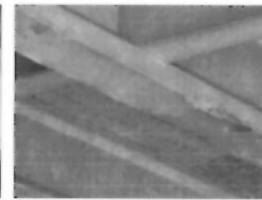
17 Girders



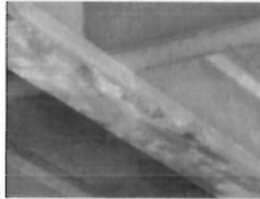
Filename: 01550 144 Girder
 2I_impact chips in the bottom
 corners near north intermediate
 diaphragm 20140617.JPG



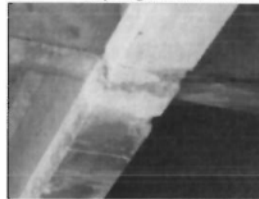
Filename: 01550 132 Girder
 2A_impact damage in the bottom
 flange near north intermediate
 diaphragm 20140617.JPG



Filename: 01550 136 Girder
 2B_impact damage in the bottom
 flange at north intermediate
 diaphragm 20140617.JPG



Filename: 01550 140 Girder
 2C_impact damage in the bottom
 flange at north intermediate
 diaphragm 20140617.JPG

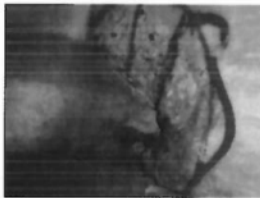


Filename: 01550 152 Girder
 2K_impact damage in the bottom
 flange at north intermediate
 diaphragm 20140617.JPG



Filename: 01550 160 Girder
 2M_impact damage in the bottom
 flange at north intermediate
 diaphragm 20140617.JPG

19 Bracing/Diaphragms

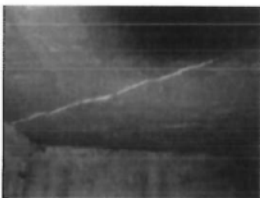


Filename: 1550 34 pier one east
 diaphragm north of girder C a
 medium spall with corroded rebar
 20090730.JPG



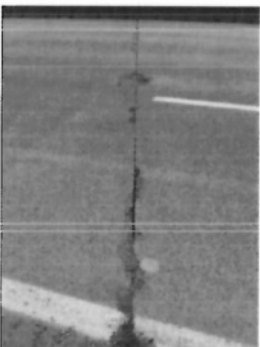
Filename: 1550 32 pier one east
 diaphragm north of girder A a big
 delam with rust stain 20090730.JPG

30 Sub Deck/Cross Ties

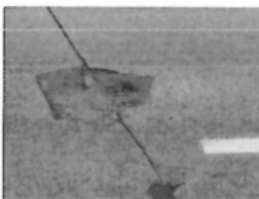


Filename: 1550 30 span 1 subdeck
 bay 2 a diagonal crack with
 efflorescence 20090730.JPG

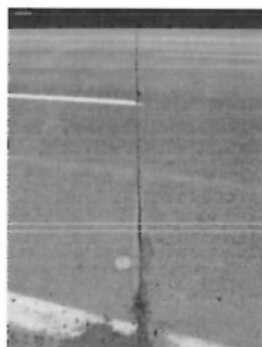
31 Wearing Surface



Filename: 01550 068 WB_pier 1
 deck joint looking south
 20140617.JPG



Filename: 01550 072 WB span 2 at
 pier 1_broken patch with exposed
 wire mesh in lane 2 north wheel
 path 20140617.JPG



Filename: 01550 076 WB_pier 2
 deck joint looking south
 20140617.JPG

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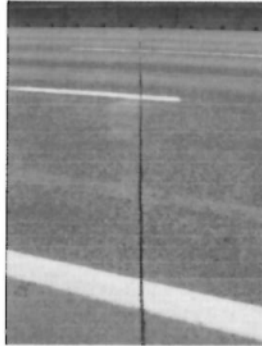
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Item Condition Photos:

32 Deck Joints



Filename: 01550 028 EB_pier 2
deck joint looking north
20140617.JPG



Filename: 01550 068 WB_pier 1
deck joint looking south
20140617.JPG

40 Roadway Approaches



Filename: 01550 088 WB_west
approach looking south
20140617.JPG



Filename: 01550 080 WB_west
approach-deck interface looking
south 20140617.JPG



Filename: 01550 020 EB_east
approach-deck interface looking
north 20140617.JPG

Inspection Notes:**Drainage Area Description**

HIGHWAY OVERPASS

Rehab Work Notes

2014 - New steel reinforcing stringer 2K.

Concrete overlay but date not noted.

1995 - West abutment modified to allow traffic lanes between the pier and the abutment.

Work needs to be done on the up slope approach and exit (EB and WB) to get the water away before it gets to the bridge.

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Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

Inspection Notes:

Maintenance Work Notes

April 26, 2016

4. Scour - place rock and gravel at the east abutment (esp. below bay 10) to prevent runoff scour.

6. Abutments - seal cracks.

7. Wing Walls - repair delam in the north wing wall of the west abutment.

10. Pier Columns:

- epoxy inject cracks and repair delam/spalls.
- flush clean the top at both ends of the piers.

11. Bearings - clean and coat bearings.

17. Girders - Damage repaired March 2015

19. Diaphragms - repair spalls / delams. in bottom corners.

32. Deck Joints - reseal saw cut joints.

40. Approaches - seal cracks.

Condition Inspection Report

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = Y - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

RFI: 07-B-6-00001 - Rte 1 EB - TransCanada - ON

Features Crossed: TRANS CANADA/HUNTINGTON-ABBOTS

07-B-6-00001W - Rte 1 WB - TransCanada - ON

07-B-6-00011 - Rte 11 NB - Huntington-Mission - UNDER

07-B-6-00011S - Rte 11 SB - Mission-Huntington - UNDER

Component Group/Component

E

G

F

P

V

X

N/A

HYDROTECHNICAL :

| | | | | | | | | |
|----|--------------------|-----|--|----|----|--|--|---|
| 1. | Debris Risk | 100 | | | | | | N |
| 4. | Substructure Scour | 70 | | 10 | 20 | | | N |

SUBSTRUCTURE :

| | | | | | | | | |
|-----|--------------------------|----|----|----|----|--|--|---|
| 5. | Foundation Movement | 99 | | 1 | | | | N |
| 6. | Abutments | | 95 | 5 | | | | N |
| 7. | Wing/Retaining Walls | | 99 | | 1 | | | N |
| 10. | Pier Columns/Walls/Cribs | | 95 | 3 | 2 | | | N |
| 11. | Bearings | | | 50 | 50 | | | N |

SUPERSTRUCTURE :

| | | | | | | | | |
|-----|---------------------|-----|----|---|---|---|--|---|
| 17. | Girders | | 85 | 9 | 4 | 2 | | N |
| 19. | Bracing/Diaphragms | | 95 | 3 | 2 | | | N |
| 27. | Camber/Sag | 100 | | | | | | N |
| 28. | Live Load Vibration | 100 | | | | | | N |

DECK :

| | | | | | | | | |
|-----|---------------------|--|-----|----|----|--|--|---|
| 30. | Sub Deck/Cross Ties | | 99 | 1 | | | | N |
| 31. | Wearing Surface | | 99 | 1 | | | | N |
| 32. | Deck Joints | | 50 | 20 | 30 | | | N |
| 33. | Curbs/Wheelguards | | 100 | | | | | N |
| 35. | Railings/Parapets | | 99 | 1 | | | | N |
| 36. | Median Barrier | | 99 | 1 | | | | N |
| 37. | Drains/Pipes | | 100 | | | | | N |

APPROACHES :

| | | | | | | | | |
|-----|--------------------|----|----|----|----|----|--|---|
| 39. | Signing/Lighting | 50 | | | | 50 | | N |
| 40. | Roadway Approaches | 80 | 19 | 1 | | | | N |
| 41. | Roadway Flares | | | 50 | 50 | | | N |

1st Abutment Position: E

Year Built: 1961 Estimated? ☐

Length (m): 45.974

Note: - First abutment is EAST as noted from the drawing.

Main Span Length: 15.259

Main Span Type: STRINGER

Spans: 3

Urgency: 3

BCI Rating: 1.93

Adjusted BCI Rating: 2.03

Inspector/Inspected By: Doug Wilson

On 2015/02/25

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: - downgraded from 4 to 3 due to new steel reinforcing girder 2K.
 - still multiple impact spalls on girders that require repair.

Item Notes:

4 . Substructure Scour East abutment - deep runoff channels in fill under bays 2 and 10.

Condition Inspection Report

DJW

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = Y - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P**Status:** Open/In Use**Inspection Type:** Routine Condition**Region:** 1 - South Coast Region**District:** 1 - Lower Mainland District**Contract Area:** 7 - Fraser Valley CA**Inspection Notes:****Rehab Work Notes**

2014 - New steel reinforcing stringer 2K.

Concrete overlay but date not noted.

1995 - West abutment modified to allow traffic lanes between the pier and the abutment.

Work needs to be done on the up slope approach and exit (EB and WB) to get the water away before it gets to the bridge.

Maintenance Work Notes

Feb.25,2015

4. Scour - place rock and gravel at the east abutment (esp. below bay 10) to prevent runoff scour.

6. Abutments - seal cracks.

7. Wing Walls - repair delam in the north wing wall of the west abutment.

10. Pier Columns:

- epoxy inject cracks and repair delam/spalls.
- flush clean the top at both ends of the piers.

11. Bearings - clean and coat bearings.

17. Girders - Damage repaired March 2015

19. Diaphragms - repair spalls / delams. in bottom corners.

32. Deck Joints - reseal saw cut joints.

40. Approaches - seal cracks.

Condition Inspection Report

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Detailed Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

RFI: 07-B-6-00001 - Rte 1 EB - TransCanada - ON

Features Crossed: TRANS CANADA/HUNTINGTON-ABBOTS

07-B-6-00001W - Rte 1 WB - TransCanada - ON

07-B-6-00011 - Rte 11 NB - Huntington-Mission -
UNDER07-B-6-00011S - Rte 11 SB - Mission-Huntington -
UNDER**Component Group/Component**

E

G

F

P

V

X

N/A

HYDROTECHNICAL :

| | | | | | | | | |
|----|--------------------|-----|--|----|----|--|--|---|
| 1. | Debris Risk | 100 | | | | | | N |
| 4. | Substructure Scour | 70 | | 10 | 20 | | | N |

SUBSTRUCTURE :

| | | | | | | | | |
|-----|--------------------------|----|----|----|----|--|--|---|
| 5. | Foundation Movement | 99 | | 1 | | | | N |
| 6. | Abutments | | 95 | 5 | | | | N |
| 7. | Wing/Retaining Walls | | 99 | | 1 | | | N |
| 10. | Pier Columns/Walls/Cribs | | 95 | 3 | 2 | | | N |
| 11. | Bearings | | | 50 | 50 | | | N |

SUPERSTRUCTURE :

| | | | | | | | | |
|-----|---------------------|-----|----|---|---|---|--|---|
| 17. | Girders | | 85 | 9 | 4 | 2 | | N |
| 19. | Bracing/Diaphragms | | 95 | 3 | 2 | | | N |
| 27. | Camber/Sag | 100 | | | | | | N |
| 28. | Live Load Vibration | 100 | | | | | | N |

DECK :

| | | | | | | | | |
|-----|---------------------|--|-----|----|----|--|--|---|
| 30. | Sub Deck/Cross Ties | | 99 | 1 | | | | N |
| 31. | Wearing Surface | | 99 | 1 | | | | N |
| 32. | Deck Joints | | 50 | 20 | 30 | | | N |
| 33. | Curbs/Wheelguards | | 100 | | | | | N |
| 35. | Railings/Parapets | | 99 | 1 | | | | N |
| 36. | Median Barrier | | 99 | 1 | | | | N |
| 37. | Drains/Pipes | | 100 | | | | | N |

APPROACHES :

| | | | | | | | | |
|-----|--------------------|----|----|----|----|----|--|---|
| 39. | Signing/Lighting | 50 | | | | 50 | | N |
| 40. | Roadway Approaches | 80 | 19 | 1 | | | | N |
| 41. | Roadway Flares | | | 50 | 50 | | | N |

1st Abutment Position: E

Year Built: 1961 Estimated? ☐

Length (m): 45.974

Note: - First abutment is EAST as noted from the drawing.

Main Span Length: 15.259

Main Span Type: STRINGER

Spans: 3

Urgency: 3

BCI Rating: 1.93

Adjusted BCI Rating: 2.03

Inspector/Inspected By: Kent Hodgson

On 2014/06/17

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: - downgraded from 4 to 3 due to new steel reinforcing girder 2K.
- still multiple impact spalls on girders that require repair.

Item Notes:

4 . Substructure Scour East abutment - deep runoff channels in fill under bays 2 and 10.

Condition Inspection Report

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
- Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P**Status:** Open/In Use**Inspection Type:** Detailed Condition**Region:** 1 - South Coast Region**District:** 1 - Lower Mainland District**Contract Area:** 7 - Fraser Valley CA**Inspection Notes:****Maintenance Work Notes**

June 2014

4. Scour - place rock and gravel at the east abutment (esp. below bay 10) to prevent runoff scour.

6. Abutments - seal cracks.

7. Wing Walls - repair delam in the north wing wall of the west abutment.

10. Pier Columns:

- epoxy inject cracks and repair delam/spalls.
- flush clean the top at both ends of the piers.

11. Bearings - clean and coat bearings.

17. Girders - repair impact damage.

19. Diaphragms - repair spalls / delams. in bottom corners.

32. Deck Joints - reseal saw cut joints.

40. Approaches - seal cracks.

Condition Inspection Report

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

RFI: 07-B-6-00001 - Rte 1 EB - TransCanada - ON

Features Crossed: TRANS CANADA/HUNTINGTON-ABBOTS

07-B-6-00001W - Rte 1 WB - TransCanada - ON

07-B-6-00011 - Rte 11 NB - Huntington-Mission -
UNDER07-B-6-00011S - Rte 11 SB - Mission-Huntington -
UNDERComponent Group/Component

E

G

F

P

V

X

N/A

HYDROTECHNICAL :

| | | | | | | | | |
|----|--------------------|-----|--|----|----|--|--|---|
| 1. | Debris Risk | 100 | | | | | | N |
| 4. | Substructure Scour | 70 | | 10 | 20 | | | N |

SUBSTRUCTURE :

| | | | | | | | | |
|-----|--------------------------|----|----|----|----|--|--|---|
| 5. | Foundation Movement | 99 | | 1 | | | | N |
| 6. | Abutments | | 95 | 5 | | | | N |
| 7. | Wing/Retaining Walls | | 99 | | 1 | | | N |
| 10. | Pier Columns/Walls/Cribs | | 95 | 3 | 2 | | | N |
| 11. | Bearings | | | 50 | 50 | | | N |

SUPERSTRUCTURE :

| | | | | | | | | |
|-----|---------------------|-----|----|---|---|---|--|---|
| 17. | Girders | | 85 | 9 | 4 | 2 | | N |
| 19. | Bracing/Diaphragms | | 95 | 3 | 2 | | | N |
| 27. | Camber/Sag | 100 | | | | | | N |
| 28. | Live Load Vibration | 100 | | | | | | N |

DECK :

| | | | | | | | | |
|-----|---------------------|--|-----|----|----|--|--|---|
| 30. | Sub Deck/Cross Ties | | 99 | 1 | | | | N |
| 31. | Wearing Surface | | 99 | 1 | | | | N |
| 32. | Deck Joints | | 50 | 20 | 30 | | | N |
| 33. | Curbs/Wheelguards | | 100 | | | | | N |
| 35. | Railings/Parapets | | 99 | 1 | | | | N |
| 36. | Median Barrier | | 99 | 1 | | | | N |
| 37. | Drains/Pipes | | 100 | | | | | N |

APPROACHES :

| | | | | | | | | |
|-----|--------------------|----|----|----|----|----|--|---|
| 39. | Signing/Lighting | 50 | | | | 50 | | N |
| 40. | Roadway Approaches | 80 | 19 | 1 | | | | N |
| 41. | Roadway Flares | | | 50 | 50 | | | N |

1st Abutment Position: E

Year Built: 1961 Estimated? ☐

Length (m): 45.974

Note: - First abutment is EAST as noted from the drawing.

Main Span Length: 15.259

Main Span Type: STRINGER

Spans: 3

Urgency: 4

BCI Rating: 1.93

Adjusted BCI Rating: 2.03

Inspector/Inspected By: Doug Wilson

On 2013/10/10

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: - repair Impact damage on girder 2K which has a large spall and exposed strands in the bottom flange.

Item Notes:

4 . Substructure Scour East abutment - deep runoff channels in fill under bays 2 and 10.

Condition Inspection Report

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

Item Notes:

17 . Girders

12 precast concrete I beam girders per span.

Span 1:

- dirt and water staining on the outside face of the outside girders under scuppers otherwise OK.

Span 2:

All girders have scrape marks in the underside of the bottom flanges.

- girder 2A - 1 med. to large spall / exposed rebar (previously patched) and 1 light spall / exposed rebar in the south side of the bottom flange near the east intermediate diaphragm (above slow lane). Fine cracks in the web (exterior face) at pier 2.
- girder 2B, south bottom corner - medium spall / exposed rebar at east of east intermediate diaphragm and couple of concrete chips at west of east intermediate diaphragm.
- girder 2C, south bottom corner - light spall at east of east intermediate diaphragm.
- girders 2F - small patch in south bottom corner beside the east edge of the east intermediate diaphragm.
- girder 2G - couple of light concrete chips in the south bottom flange at east of east intermediate diaphragm. Light patch in bottom flange at west of east intermediate diaphragm.
- girder 2H - some light concrete chips in the south bottom flange at east and west of east intermediate diaphragm.
- girder 2I at east intermediate diaphragm - light concrete chip in the south bottom corner, light spall in north bottom flange.
- girder 2J - light concrete chipping in north and south bottom corner near the east intermediate diaphragm. Scrapes across the underside of bottom flange. 2 tiny impact chips and a small patch in the north bottom corner near the west intermediate diaphragm.

- girder 2K:

- severe impact damage on the north bottom flange above the slow lane. The incident took place on November 17, 2004.
- light to medium spall / exposed rebars in the south bottom corner, heavy scrapes across the underside at the east intermediate diaphragm.
- large spall with exposed corroded strands (one strand has 2 broken wires) and 4 exposed stirrups in the north side bottom flange above the slow lane. The length of the impact damage is about 1200mm.
- a few light impact chips in the north bottom corner at both sides of the west intermediate diaphragm.

- girder 2L - several light impact chips in south bottom corner above the slow lane. 1 light chip in the north bottom corner above the slow lane. Several light concrete chips in north bottom corner above the fast lane.

Span 3:

- girder 3A - fine cracks in the web (exterior face) at pier 2.
- girder 3L - light impact chip in the north bottom corner at above the west shoulder line.

Condition Inspection Report

DJW

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

Item Notes:

- 33 . Curbs/Wheelguards Concrete curb of 450mm W x 180mm H with a step of 375mm W x 145mm H for the aluminum railing.
 Light scaling on the concrete curb.
- 35 . Railings/Parapets 2 rail aluminum system. 575mm high.
 North railing:
 - end cap missing at east and west ends of the lower rail.
 - top rail has light dent and scrape mark at east of 5th post.
 South railing:
 - end caps missing in west end of upper & lower rails.
- 36 . Median Barrier 750mm no post concrete barrier.
- 37 . Drains/Pipes Scuppers plugged except in span 1. Dirt building up in the scuppers.
- 39 . Signing/Lighting East approach - W54 only at east end of the north side flare.
 West approach - no W54's.
- 40 . Roadway Approaches Fairly new asphalt in all approaches.
 EAST APPROACH:
 E/B:
 - slight gap between ballast wall and the approach.
 - lane 1 - short transverse cracks in the wheel paths near deck end. Short transverse crack in the north wheel path at about 1.5 m. from deck end.
 W/B:
 - slight gap between ballast wall and the approach especially on lane 1 and south half of lane 2.
 - lane 2 - some transverse cracks in both sides of the lane near deck end. Short wide transverse crack in the north half of the lane at about 2.5 m. from deck end.
 WEST APPROACH:
 E/B:
 - slight gap between ballast wall and the approach especially on lanes 1 and 2.
 - lane 2 - intermittent wide transverse cracks at about 150mm from deck end.
 W/B:
 - gap of about 50mm along the ballast wall. However, wider gap at the wheel paths of lane 2.
 - lane 2 - short transverse crack in the south wheel path at about 1.5 m. from deck end.
- 41 . Roadway Flares EAST approach:
 - north side - long 700mm no post - not attached.
 - south side - 140mm H. low curb at about 2 m. from bridge end.
 WEST approach:
 - north side - asphalt curb.
 - south side - long 700mm no post at about 8 m. from bridge end.

Item Condition Photos:

Condition Inspection Report

DJW

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

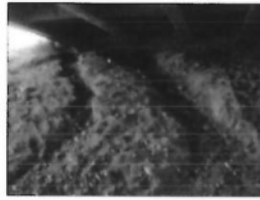
Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

Item Condition Photos:

4 Substructure Scour



Filename: 1550 29 east abutment fill
 slope under bay 9~11 medium run
 off channel 20090730.JPG

6 Abutments



Filename: 1550 50 west abutment
 bearing area 20090730.JPG

7 Wing/Retaining Walls



Filename: 1550 52 west abutment
 north wind wall with map cracks
 20090730.JPG

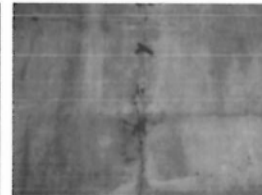
10 Pier Columns/Walls/Cribs



Filename: 1550 31 pier one east
 face 20090730.JPG

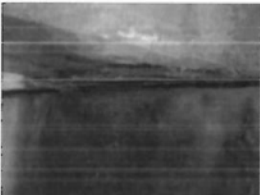


Filename: 1550 35 pier one east
 side medium delams under girder
 E, F and G 20090730.JPG

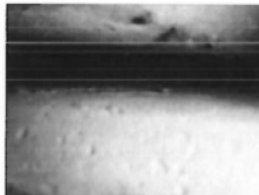


Filename: 1550 40 pier two east
 face under girder I a medium to
 wide full height vertical crack
 20090730.JPG

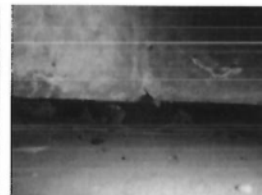
11 Bearings



Filename: 1550 38 pier one bearing
 2D with medium corrosion on sole
 plate 20090730.JPG



Filename: 1550 51 west abutment
 bearing A laminated elastomeric
 bearing 20090730.JPG



Filename: 1550 27 east abutment
 bearing B with light to medium
 corrosion on masonry plate
 20090730.JPG

Condition Inspection Report

DJW

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

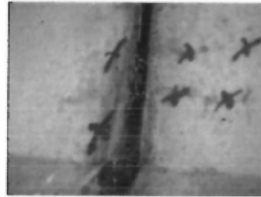
Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

Item Condition Photos:

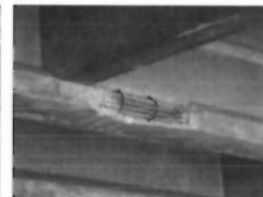
17 Girders



Filename: 1550 42 pier two girder 2A with fine horizontal cracks and girder 3A with a vertical fine crack at end 20090730.JPG

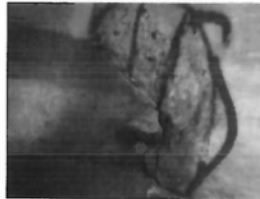


Filename: 1550 39 span 2 girders on the south side with impact spalling and chips on bottom flange 20090730.JPG

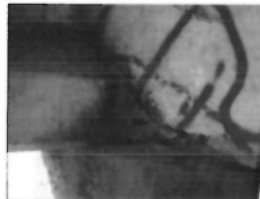


Filename: 1550 43 span 2 girder 2K north bottom flange a big spall with full exposed prestressed strands and stirrups. 20090730.JPG

19 Bracing/Diaphragms

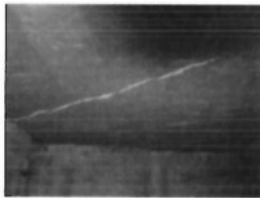


Filename: 1550 34 pier one east diaphragm north of girder C a medium spall with corroded rebar 20090730.JPG



Filename: 1550 32 pier one east diaphragm north of girder A a big delam with rust stain 20090730.JPG

30 Sub Deck/Cross Ties



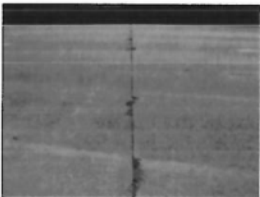
Filename: 1550 30 span 1 subdeck bay 2 a diagonal crack with efflorescence 20090730.JPG

31 Wearing Surface



Filename: 1550 14 sawcut joint over pier 2 at east bound 20090730.JPG

32 Deck Joints



Filename: 1550 11 sawcut joint over pier 1 at west bound 20090730.JPG



Filename: P6140304 pier 1 sawcut joint WB lanes .JPG

Condition Inspection Report

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P
 Region: 1 - South Coast Region

Status: Open/In Use
 District: 1 - Lower Mainland District

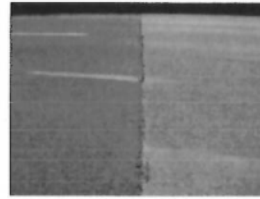
Inspection Type: Routine Condition
 Contract Area: 7 - Fraser Valley CA

Item Condition Photos:

40 Roadway Approaches



Filename: 1550 21 west abutment
 joint (no joint) at west bound
 20090730.JPG



Filename: 1550 8 east abutment
 joint (no joint) at west bound
 20090730.JPG

Inspection Notes:

Drainage Area Description
 HIGHWAY OVERPASS

Rehab Work Notes

Concrete overlay but date not noted.

1995 - West abutment modified to allow traffic lanes between the pier and the abutment.

Work needs to be done on the up slope approach and exit (EB and WB) to get the water away from before it gets to the bridge.

Maintenance Work Notes

Oct.10,2013

2. Bank / Bed Scour - place rock and gravel at the east abutment (esp. below bay 10) to prevent runoff scour.

5. Abutments - seal cracks.

6. Wing Walls - repair delam. in the north wing wall of the west abutment.

8. Pier Columns:

- epoxy inject cracks and repair spalls.
- flush clean the top at both ends of the piers.

9. Bearings - clean and coat bearings.

14. Girders - repair impact damage.

16. Diaphragms - repair spalls / delams. in bottom corners.

29. Deck Joints - reseal sawcut joints.

37. Approaches - seal cracks.

Condition Inspection Report

DJW

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

RFI: 07-B-6-00001 - Rte 1 EB - TransCanada - ON

Features Crossed: TRANS CANADA/HUNTINGTON-ABBOTS

07-B-6-00001W - Rte 1 WB - TransCanada - ON

07-B-6-00011 - Rte 11 NB - Huntington-Mission -
UNDER07-B-6-00011S - Rte 11 SB - Mission-Huntington -
UNDERComponent Group/Component

E

G

F

P

V

X

N/A

HYDROTECHNICAL :

| | | | | | | | | |
|----|--------------------|-----|--|----|----|--|--|---|
| 1. | Debris Risk | 100 | | | | | | N |
| 4. | Substructure Scour | 70 | | 10 | 20 | | | N |

SUBSTRUCTURE :

| | | | | | | | | |
|-----|--------------------------|----|----|----|----|--|--|---|
| 5. | Foundation Movement | 99 | | 1 | | | | N |
| 6. | Abutments | | 95 | 5 | | | | N |
| 7. | Wing/Retaining Walls | | 99 | | 1 | | | N |
| 10. | Pier Columns/Walls/Cribs | | 95 | 3 | 2 | | | N |
| 11. | Bearings | | | 50 | 50 | | | N |

SUPERSTRUCTURE :

| | | | | | | | | |
|-----|---------------------|-----|----|---|---|---|--|---|
| 17. | Girders | | 85 | 9 | 4 | 2 | | N |
| 19. | Bracing/Diaphragms | | 95 | 3 | 2 | | | N |
| 27. | Camber/Sag | 100 | | | | | | N |
| 28. | Live Load Vibration | 100 | | | | | | N |

DECK :

| | | | | | | | | |
|-----|---------------------|--|-----|----|----|--|--|---|
| 30. | Sub Deck/Cross Ties | | 99 | 1 | | | | N |
| 31. | Wearing Surface | | 99 | 1 | | | | N |
| 32. | Deck Joints | | 50 | 20 | 30 | | | N |
| 33. | Curbs/Wheelguards | | 100 | | | | | N |
| 35. | Railings/Parapets | | 99 | 1 | | | | N |
| 36. | Median Barrier | | 99 | 1 | | | | N |
| 37. | Drains/Pipes | | 100 | | | | | N |

APPROACHES :

| | | | | | | | | |
|-----|--------------------|----|----|----|----|----|--|---|
| 39. | Signing/Lighting | 50 | | | | 50 | | N |
| 40. | Roadway Approaches | 80 | 19 | 1 | | | | N |
| 41. | Roadway Flares | | | 50 | 50 | | | N |

1st Abutment Position: E

Year Built: 1961 Estimated? ☐

Length (m): 45.974

Note: - First abutment is EAST as noted from the drawing.

Main Span Length: 15.259

Main Span Type: STRINGER

Spans: 3

Urgency: 4

BCI Rating: 1.93

Adjusted BCI Rating: 2.03

Inspector/Inspected By: Doug Wilson

On 2012/08/01

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: - repair Impact damage on girder 2K which has a large spall and exposed strands in the bottom flange.

Item Notes:

4 . Substructure Scour East abutment - deep runoff channels in fill under bays 2 and 10.

Condition Inspection Report

DJW

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

Item Notes:

10 . Pier Columns/Walls/Cribs PIER 1:

East face:

- light delam. near the top at north side of girder 1B.
- below bay 3 - fine vertical crack near the top at north side of girder 1C. Full height med. to wide vertical crack. Fine diagonal crack near top at south of girder 1D.
- below bay 4 - half height (from ground) fine vertical crack.
- large delam. / cracks near top at north of girder 1E.
- large delam. near the top from girder 1F to north end of south pier.
- below girder 1G - large delam. near the top.
- below girder 1H - light delam. near the top.
- full height med. vertical crack at S. of girder 1I.
- medium delam. near the top at N. of girder 1I.
- below bay 10 - full height fine to medium vertical crack.
- large delam. near top at N. of girder 1K.
- below bay 11 - 2 short fine vertical cracks in the upper half of the wall.

West face:

- below bay 3 - full height medium vertical crack. Short diagonal crack near the top at south side of girder 2D.
- below bay 4 - 3/4 height medium vertical crack.
- below bay 5 - short fine / medium diagonal crack at north side girder 2E.
- below bay 8 - full height medium / wide vertical crack at south side of girder 2I.
- below bay 10 - full height fine / medium vertical crack.

Light vegetation sticking out between the ends of girders (north end).

PIER 2:

East face:

- below bay 3 - a wide full height vertical crack.
- fine vertical crack near top at north of girder 2C.
- fine vertical crack near top at south of girder 2D.
- below bay 4 - 1 fine to med. vertical crack approximately half height.
- below bay 5 - short diagonal crack near the top at north side of girder 2E.
- below bay 9 - wide full height vertical crack.
- fine / medium full height vertical crack under girder 2J.
- light delam. near top at north of girder 2K.

West face:

- medium spall / exposed rebar near top under girder 3A.
- large delam. along top corner from south side of girder 3B to south side of girder 3C.
- medium delam. in mid height below girder 3C.
- below bay 3 - wide vertical crack with large delam. in mid height.
- full height medium vertical cracks at north of girder 3I and south of girder 3J.
- small spalls / exposed rebar in mid height at the north end & south end of the north pier.
- lined with 800mm H. no post.
- heavy water staining at girder locations.

11 . Bearings

East abutment - light to medium corrosion on steel rocker plates. Pack rust on sole plates.

Piers 1 & 2:

- grout pad and lead sheet under girders.
- medium corrosion with pack rust on steel sole plates.

West abutment - light to medium corrosion on steel plates. Pack rust on sole plates.

Condition Inspection Report

DJW

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

Item Notes:

17 . Girders

12 precast concrete I beam girders per span.

Span 1:

- dirt and water staining on the outside face of the outside girders under scuppers otherwise OK.

Span 2:

All girders have scrape marks in the underside of the bottom flanges.

- girder 2A - 1 med. to large spall / exposed rebar (previously patched) and 1 light spall / exposed rebar in the south side of the bottom flange near the east intermediate diaphragm (above slow lane). Fine cracks in the web (exterior face) at pier 2.

- girder 2B, south bottom corner - medium spall / exposed rebar at east of east intermediate diaphragm and couple of concrete chips at west of east intermediate diaphragm.

- girder 2C, south bottom corner - light spall at east of east intermediate diaphragm.

- girders 2F - small patch in south bottom corner beside the east edge of the east intermediate diaphragm.

- girder 2G - couple of light concrete chips in the south bottom flange at east of east intermediate diaphragm. Light patch in bottom flange at west of east intermediate diaphragm.

- girder 2H - some light concrete chips in the south bottom flange at east and west of east intermediate diaphragm.

- girder 2I at east intermediate diaphragm - light concrete chip in the south bottom corner, light spall in north bottom flange.

- girder 2J - light concrete chipping in north and south bottom corner near the east intermediate diaphragm. Scrapes across the underside of bottom flange. 2 tiny impact chips and a small patch in the north bottom corner near the west intermediate diaphragm.

- girder 2K:

- severe impact damage on the north bottom flange above the slow lane. The incident took place on November 17, 2004.

- light to medium spall / exposed rebars in the south bottom corner, heavy scrapes across the underside at the east intermediate diaphragm.

- large spall with exposed corroded strands (one strand has 2 broken wires) and 4 exposed stirrups in the north side bottom flange above the slow lane. The length of the impact damage is about 1200mm.

- a few light impact chips in the north bottom corner at both sides of the west intermediate diaphragm.

- girder 2L - several light impact chips in south bottom corner above the slow lane. 1 light chip in the north bottom corner above the slow lane. Several light concrete chips in north bottom corner above the fast lane.

Span 3:

- girder 3A - fine cracks in the web (exterior face) at pier 2.

- girder 3L - light impact chip in the north bottom corner at above the west shoulder line.

Condition Inspection Report

DJW

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

Item Notes:

- 33 . Curbs/Wheelguards Concrete curb of 450mm W x 180mm H with a step of 375mm W x 145mm H for the aluminum railing.
 Light scaling on the concrete curb.
- 35 . Railings/Parapets 2 rail aluminum system. 575mm high.
 North railing:
 - end cap missing at east and west ends of the lower rail.
 - top rail has light dent and scrape mark at east of 5th post.
 South railing:
 - end caps missing in west end of upper & lower rails.
- 36 . Median Barrier 750mm no post concrete barrier.
- 37 . Drains/Pipes Scuppers plugged except in span 1. Dirt building up in the scuppers.
- 39 . Signing/Lighting East approach - W54 only at east end of the north side flare.
 West approach - no W54's.
- 40 . Roadway Approaches Fairly new asphalt in all approaches.
 EAST APPROACH:
 E/B:
 - slight gap between ballast wall and the approach.
 - lane 1 - short transverse cracks in the wheel paths near deck end. Short transverse crack in the north wheel path at about 1.5 m. from deck end.
 W/B:
 - slight gap between ballast wall and the approach especially on lane 1 and south half of lane 2.
 - lane 2 - some transverse cracks in both sides of the lane near deck end. Short wide transverse crack in the north half of the lane at about 2.5 m. from deck end.
 WEST APPROACH:
 E/B:
 - slight gap between ballast wall and the approach especially on lanes 1 and 2.
 - lane 2 - intermittent wide transverse cracks at about 150mm from deck end.
 W/B:
 - gap of about 50mm along the ballast wall. However, wider gap at the wheel paths of lane 2.
 - lane 2 - short transverse crack in the south wheel path at about 1.5 m. from deck end.
- 41 . Roadway Flares EAST approach:
 - north side - long 700mm no post - not attached.
 - south side - 140mm H. low curb at about 2 m. from bridge end.
 WEST approach:
 - north side - asphalt curb.
 - south side - long 700mm no post at about 8 m. from bridge end.

Item Condition Photos:

Condition Inspection Report

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Region: 1 - South Coast Region

Status: Open/In Use

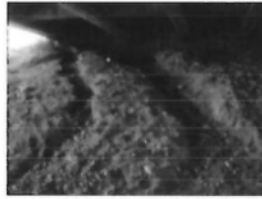
District: 1 - Lower Mainland District

Inspection Type: Routine Condition

Contract Area: 7 - Fraser Valley CA

Item Condition Photos:

4 Substructure Scour



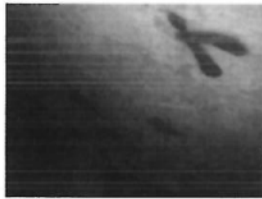
Filename: 1550 29 east abutment fill
 slope under bay 9-11 medium run
 off channel 20090730.JPG

6 Abutments



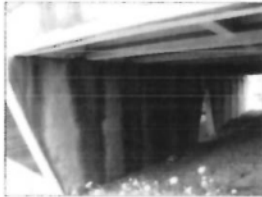
Filename: 1550 50 west abutment
 bearing area 20090730.JPG

7 Wing/Retaining Walls

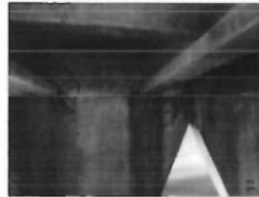


Filename: 1550 52 west abutment
 north wind wall with map cracks
 20090730.JPG

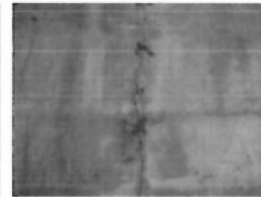
10 Pier Columns/Walls/Cribs



Filename: 1550 31 pier one east
 face 20090730.JPG

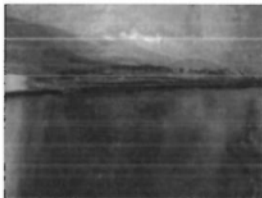


Filename: 1550 35 pier one east
 side medium delams under girder
 E, F and G 20090730.JPG

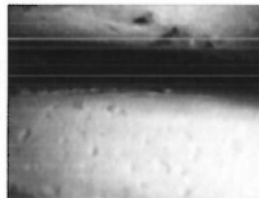


Filename: 1550 40 pier two east
 face under girder I a medium to
 wide full height vertical crack
 20090730.JPG

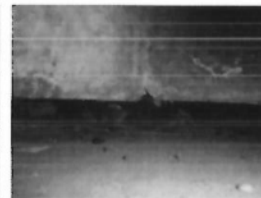
11 Bearings



Filename: 1550 38 pier one bearing
 2D with medium corrosion on sole
 plate 20090730.JPG



Filename: 1550 51 west abutment
 bearing A laminated elastomeric
 bearing 20090730.JPG



Filename: 1550 27 east abutment
 bearing B with light to medium
 corrosion on masonry plate
 20090730.JPG

Condition Inspection Report

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Region: 1 - South Coast Region

Status: Open/In Use

District: 1 - Lower Mainland District

Inspection Type: Routine Condition

Contract Area: 7 - Fraser Valley CA

Item Condition Photos:

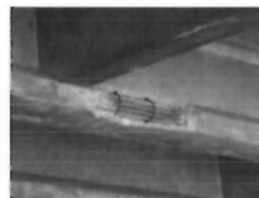
17 Girders



Filename: 1550 42 pier two girder 2A with fine horizontal cracks and girder 3A with a vertical fine crack at end 20090730.JPG



Filename: 1550 39 span 2 girders on the south side with impact spalling and chips on bottom flange 20090730.JPG



Filename: 1550 43 span 2 girder 2K north bottom flange a big spall with full exposed prestressed strands and stirrups. 20090730.JPG

19 Bracing/Diaphragms

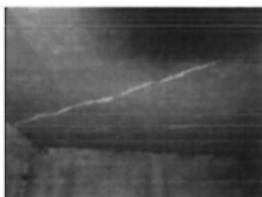


Filename: 1550 34 pier one east diaphragm north of girder C a medium spall with corroded rebar 20090730.JPG



Filename: 1550 32 pier one east diaphragm north of girder A a big delam with rust stain 20090730.JPG

30 Sub Deck/Cross Ties



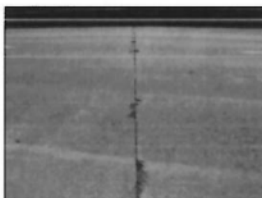
Filename: 1550 30 span 1 subdeck bay 2 a diagonal crack with efflorescence 20090730.JPG

31 Wearing Surface



Filename: 1550 14 sawcut joint over pier 2 at east bound 20090730.JPG

32 Deck Joints



Filename: 1550 11 sawcut joint over pier 1 at west bound 20090730.JPG



Filename: P6140304 pier 1 sawcut joint WB lanes .JPG

Condition Inspection Report

DJW

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

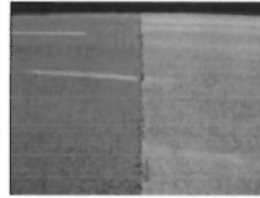
Contract Area: 7 - Fraser Valley CA

Item Condition Photos:

40 Roadway Approaches



Filename: 1550 21 west abutment
joint (no joint) at west bound
20090730.JPG



Filename: 1550 8 east abutment
joint (no joint) at west bound
20090730.JPG

Inspection Notes:**Drainage Area Description**

HIGHWAY OVERPASS

Rehab Work Notes

Concrete overlay but date not noted.

1995 - West abutment modified to allow traffic lanes between the pier and the abutment.

Work needs to be done on the up slope approach and exit (EB and WB) to get the water away before it gets to the bridge.

Maintenance Work Notes

Aug.1,2012

2. Bank / Bed Scour - place rock and gravel at the east abutment (esp. below bay 10) to prevent runoff scour.

5. Abutments - seal cracks.

6. Wing Walls - repair delam. in the north wing wall of the west abutment.

8. Pier Columns:

- epoxy inject cracks and repair spalls.
- flush clean the top at both ends of the piers.

9. Bearings - clean and coat bearings.

14. Girders - repair impact damage.

16. Diaphragms - repair spalls / delams. in bottom corners.

29. Deck Joints - reseal sawcut joints.

37. Approaches - seal cracks.

Condition Inspection Report

DJW

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

RFI: 07-B-6-00001 - Rte 1 EB - TransCanada - ON

Features Crossed: TRANS CANADA/HUNTINGTON-ABBOTS

07-B-6-00001W - Rte 1 WB - TransCanada - ON

07-B-6-00011 - Rte 11 NB - Huntington-Mission - UNDER

07-B-6-00011S - Rte 11 SB - Mission-Huntington - UNDER

Component Group/Component**E****G****F****P****V****X****N/A****HYDROTECHNICAL :**

| | | | | | | | | |
|----|--------------------|-----|--|----|----|--|--|---|
| 1. | Debris Risk | 100 | | | | | | N |
| 4. | Substructure Scour | 70 | | 10 | 20 | | | N |

SUBSTRUCTURE :

| | | | | | | | | |
|-----|--------------------------|----|----|----|----|--|--|---|
| 5. | Foundation Movement | 99 | | 1 | | | | N |
| 6. | Abutments | | 95 | 5 | | | | N |
| 7. | Wing/Retaining Walls | | 99 | | 1 | | | N |
| 10. | Pier Columns/Walls/Cribs | | 95 | 3 | 2 | | | N |
| 11. | Bearings | | | 50 | 50 | | | N |

SUPERSTRUCTURE :

| | | | | | | | | |
|-----|---------------------|-----|----|---|---|---|--|---|
| 17. | Girders | | 85 | 9 | 4 | 2 | | N |
| 19. | Bracing/Diaphragms | | 95 | 3 | 2 | | | N |
| 27. | Camber/Sag | 100 | | | | | | N |
| 28. | Live Load Vibration | 100 | | | | | | N |

DECK :

| | | | | | | | | |
|-----|---------------------|--|-----|----|----|--|--|---|
| 30. | Sub Deck/Cross Ties | | 99 | 1 | | | | N |
| 31. | Wearing Surface | | 99 | 1 | | | | N |
| 32. | Deck Joints | | 50 | 20 | 30 | | | N |
| 33. | Curbs/Wheelguards | | 100 | | | | | N |
| 35. | Railings/Parapets | | 99 | 1 | | | | N |
| 36. | Median Barrier | | 99 | 1 | | | | N |
| 37. | Drains/Pipes | | 100 | | | | | N |

APPROACHES :

| | | | | | | | | |
|-----|--------------------|----|----|----|----|----|--|---|
| 39. | Signing/Lighting | 50 | | | | 50 | | N |
| 40. | Roadway Approaches | 80 | 19 | 1 | | | | N |
| 41. | Roadway Flares | | | 50 | 50 | | | N |

1st Abutment Position: E

Year Built: 1961 Estimated? ☐

Length (m): 45.974

Note: - First abutment is EAST as noted from the drawing.

Main Span Length: 15.259

Main Span Type: STRINGER

Spans: 3

Urgency: 4

BCI Rating: 1.93

Adjusted BCI Rating: 2.03

Inspector/Inspected By: JING DU

On 2011/06/07

Amendment/Partial Inspection? P

Urgency Notes:

Urgency Rating Note: - repair Impact damage on girder 2K which has a large spall and exposed strands in the bottom flange.

Item Notes:

4 . Substructure Scour East abutment - deep runoff channels in fill under bays 2 and 10.

Condition Inspection Report

DJW

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

Item Notes:

10 . Pier Columns/Walls/Cribs PIER 1:

East face:

- light delam. near the top at north side of girder 1B.
- below bay 3 - fine vertical crack near the top at north side of girder 1C. Full height med. to wide vertical crack. Fine diagonal crack near top at south of girder 1D.
- below bay 4 - half height (from ground) fine vertical crack.
- large delam. / cracks near top at north of girder 1E.
- large delam. near the top from girder 1F to north end of south pier.
- below girder 1G - large delam. near the top.
- below girder 1H - light delam. near the top.
- full height med. vertical crack at S. of girder 1I.
- medium delam. near the top at N. of girder 1I.
- below bay 10 - full height fine to medium vertical crack.
- large delam. near top at N. of girder 1K.
- below bay 11 - 2 short fine vertical cracks in the upper half of the wall.

West face:

- below bay 3 - full height medium vertical crack. Short diagonal crack near the top at south side of girder 2D.
- below bay 4 - 3/4 height medium vertical crack.
- below bay 5 - short fine / medium diagonal crack at north side girder 2E.
- below bay 8 - full height medium / wide vertical crack at south side of girder 2I.
- below bay 10 - full height fine / medium vertical crack.

Light vegetation sticking out between the ends of girders (north end).

PIER 2:

East face:

- below bay 3 - a wide full height vertical crack.
- fine vertical crack near top at north of girder 2C.
- fine vertical crack near top at south of girder 2D.
- below bay 4 - 1 fine to med. vertical crack approximately half height.
- below bay 5 - short diagonal crack near the top at north side of girder 2E.
- below bay 9 - wide full height vertical crack.
- fine / medium full height vertical crack under girder 2J.
- light delam. near top at north of girder 2K.

West face:

- medium spall / exposed rebar near top under girder 3A.
- large delam. along top corner from south side of girder 3B to south side of girder 3C.
- medium delam. in mid height below girder 3C.
- below bay 3 - wide vertical crack with large delam. in mid height.
- full height medium vertical cracks at north of girder 3I and south of girder 3J.
- small spalls / exposed rebar in mid height at the north end & south end of the north pier.
- lined with 800mm H. no post.
- heavy water staining at girder locations.

11 . Bearings

East abutment - light to medium corrosion on steel rocker plates. Pack rust on sole plates.

Piers 1 & 2:

- grout pad and lead sheet under girders.
- medium corrosion with pack rust on steel sole plates.

West abutment - light to medium corrosion on steel plates. Pack rust on sole plates.

Condition Inspection Report

DJW

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

Item Notes:

17 . Girders

12 precast concrete I beam girders per span.

Span 1:

- dirt and water staining on the outside face of the outside girders under scuppers otherwise OK.

Span 2:

All girders have scrape marks in the underside of the bottom flanges.

- girder 2A - 1 med. to large spall / exposed rebar (previously patched) and 1 light spall / exposed rebar in the south side of the bottom flange near the east intermediate diaphragm (above slow lane). Fine cracks in the web (exterior face) at pier 2.

- girder 2B, south bottom corner - medium spall / exposed rebar at east of east intermediate diaphragm and couple of concrete chips at west of east intermediate diaphragm.

- girder 2C, south bottom corner - light spall at east of east intermediate diaphragm.

- girders 2F - small patch in south bottom corner beside the east edge of the east intermediate diaphragm.

- girder 2G - couple of light concrete chips in the south bottom flange at east of east intermediate diaphragm. Light patch in bottom flange at west of east intermediate diaphragm.

- girder 2H - some light concrete chips in the south bottom flange at east and west of east intermediate diaphragm.

- girder 2I at east intermediate diaphragm - light concrete chip in the south bottom corner, light spall in north bottom flange.

- girder 2J - light concrete chipping in north and south bottom corner near the east intermediate diaphragm. Scrapes across the underside of bottom flange. 2 tiny impact chips and a small patch in the north bottom corner near the west intermediate diaphragm.

- girder 2K:

- severe impact damage on the north bottom flange above the slow lane. The incident took place on November 17, 2004.

- light to medium spall / exposed rebars in the south bottom corner, heavy scrapes across the underside at the east intermediate diaphragm.

- large spall with exposed corroded strands (one strand has 2 broken wires) and 4 exposed stirrups in the north side bottom flange above the slow lane. The length of the impact damage is about 1200mm.

- a few light impact chips in the north bottom corner at both sides of the west intermediate diaphragm.

- girder 2L - several light impact chips in south bottom corner above the slow lane. 1 light chip in the north bottom corner above the slow lane. Several light concrete chips in north bottom corner above the fast lane.

Span 3:

- girder 3A - fine cracks in the web (exterior face) at pier 2.

- girder 3L - light impact chip in the north bottom corner at above the west shoulder line.

Condition Inspection Report

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

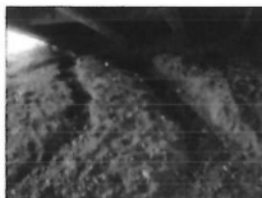
Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

Item Condition Photos:

4 Substructure Scour



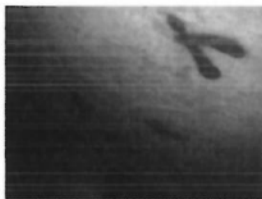
Filename: 1550 29 east abutment fill
slope under bay 9~11 medium run
off channel 20090730.JPG

6 Abutments



Filename: 1550 50 west abutment
bearing area 20090730.JPG

7 Wing/Retaining Walls



Filename: 1550 52 west abutment
north wind wall with map cracks
20090730.JPG

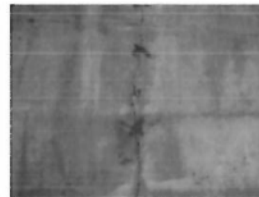
10 Pier Columns/Walls/Cribs



Filename: 1550 31 pier one east
face 20090730.JPG

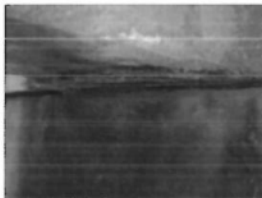


Filename: 1550 35 pier one east
side medium delams under girder
E, F and G 20090730.JPG

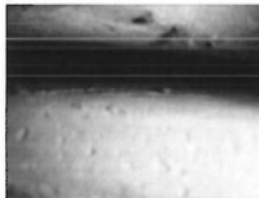


Filename: 1550 40 pier two east
face under girder I a medium to
wide full height vertical crack
20090730.JPG

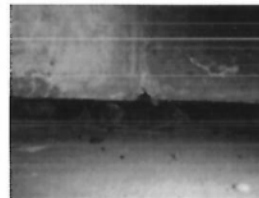
11 Bearings



Filename: 1550 38 pier one bearing
2D with medium corrosion on sole
plate 20090730.JPG



Filename: 1550 51 west abutment
bearing A laminated elastomeric
bearing 20090730.JPG



Filename: 1550 27 east abutment
bearing B with light to medium
corrosion on masonry plate
20090730.JPG

Condition Inspection Report

DJW

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

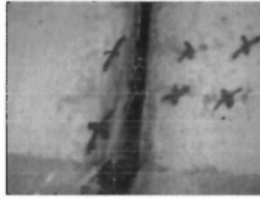
Structure No: 01550 - HUNTINGDON O/P
 Region: 1 - South Coast Region

Status: Open/In Use
 District: 1 - Lower Mainland District

Inspection Type: Routine Condition
 Contract Area: 7 - Fraser Valley CA

Item Condition Photos:

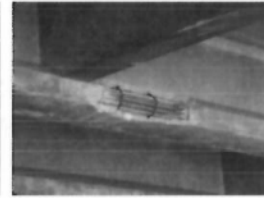
17 Girders



Filename: 1550 42 pier two girder 2A with fine horizontal cracks and girder 3A with a vertical fine crack at end 20090730.JPG

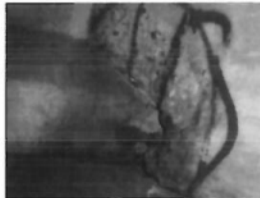


Filename: 1550 39 span 2 girders on the south side with impact spalling and chips on bottom flange 20090730.JPG

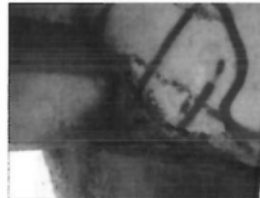


Filename: 1550 43 span 2 girder 2K north bottom flange a big spall with full exposed prestressed strands and stirrups. 20090730.JPG

19 Bracing/Diaphragms

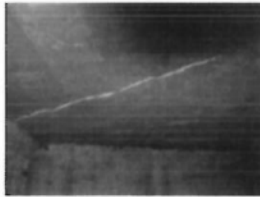


Filename: 1550 34 pier one east diaphragm north of girder C a medium spall with corroded rebar 20090730.JPG



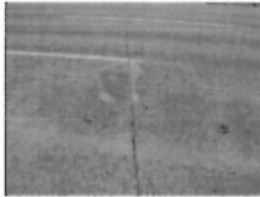
Filename: 1550 32 pier one east diaphragm north of girder A a big delam with rust stain 20090730.JPG

30 Sub Deck/Cross Ties



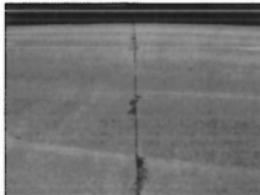
Filename: 1550 30 span 1 subdeck bay 2 a diagonal crack with efflorescence 20090730.JPG

31 Wearing Surface

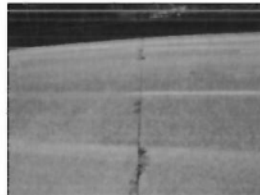


Filename: 1550 14 sawcut joint over pier 2 at east bound 20090730.JPG

32 Deck Joints



Filename: 1550 11 sawcut joint over pier 1 at west bound 20090730.JPG



Filename: P6140304 pier 1 sawcut joint WB lanes .JPG

Condition Inspection Report

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
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Structure No: 01550 - HUNTINGDON O/P
 Region: 1 - South Coast Region

Status: Open/In Use
 District: 1 - Lower Mainland District

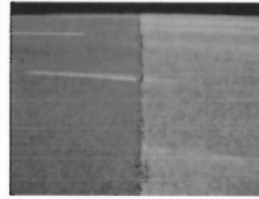
Inspection Type: Routine Condition
 Contract Area: 7 - Fraser Valley CA

Item Condition Photos:

40 Roadway Approaches



Filename: 1550 21 west abutment
joint (no joint) at west bound
20090730.JPG



Filename: 1550 8 east abutment
joint (no joint) at west bound
20090730.JPG

Inspection Notes:**Drainage Area Description**

HIGHWAY OVERPASS

Rehab Work Notes

Concrete overlay but date not noted.

1995 - West abutment modified to allow traffic lanes between the pier and the abutment.

Work needs to be done on the up slope approach and exit (EB and WB) to get the water away before it gets to the bridge.

Maintenance Work Notes

April 18, 2011

2. Bank / Bed Scour - place rock and gravel at the east abutment (esp. below bay 10) to prevent runoff scour.

5. Abutments - seal cracks.

6. Wing Walls - repair delam. in the north wing wall of the west abutment.

8. Pier Columns:

- epoxy inject cracks and repair spalls.
- flush clean the top at both ends of the piers.

9. Bearings - clean and coat bearings.

14. Girders - repair impact damage.

16. Diaphragms - repair spalls / delams. in bottom corners.

29. Deck Joints - reseal sawcut joints.

37. Approaches - seal cracks.

Partial Inspection

2011 June 7th around 10am, an truck loading an overheight steel container hit three north girders in span 2 over N/B slow lane. (Girder 2J, 2K and 2L)

Girder 2L - the web and bottom flange of the north exterior girder was smashed completely. The bottom flange integrity part remained at both end only. (1m east and 2m west). the bottom and web rebars were ripped and bottom prestressed tendons were all broken.

Girder 2K - a 1m long spall at bottom flange with rebars and prestressed tendons broken off.

Girder 2J - a big spall at north bottom flange with stirrup rebars broken and prestressed tendons fully exposed.

Condition Inspection Report

DJW

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Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

RFI: 07-B-6-00001 - Rte 1 EB - TransCanada - ON

Features Crossed: TRANS CANADA/HUNTINGTON-ABBOTS

07-B-6-00001W - Rte 1 WB - TransCanada - ON

07-B-6-00011 - Rte 11 NB - Huntington-Mission - UNDER

07-B-6-00011S - Rte 11 SB - Mission-Huntington - UNDER

Component Group/Component**E****G****F****P****V****X****N/A****HYDROTECHNICAL :**

| | | | | | | | | |
|----|--------------------|-----|--|----|----|--|--|---|
| 1. | Debris Risk | 100 | | | | | | N |
| 4. | Substructure Scour | 70 | | 10 | 20 | | | N |

SUBSTRUCTURE :

| | | | | | | | | |
|-----|--------------------------|----|----|----|----|--|--|---|
| 5. | Foundation Movement | 99 | | 1 | | | | N |
| 6. | Abutments | | 95 | 5 | | | | N |
| 7. | Wing/Retaining Walls | | 99 | | 1 | | | N |
| 10. | Pier Columns/Walls/Cribs | | 95 | 3 | 2 | | | N |
| 11. | Bearings | | | 50 | 50 | | | N |

SUPERSTRUCTURE :

| | | | | | | | | |
|-----|---------------------|-----|----|---|---|---|--|---|
| 17. | Girders | | 85 | 9 | 4 | 2 | | N |
| 19. | Bracing/Diaphragms | | 95 | 3 | 2 | | | N |
| 27. | Camber/Sag | 100 | | | | | | N |
| 28. | Live Load Vibration | 100 | | | | | | N |

DECK :

| | | | | | | | | |
|-----|---------------------|--|-----|----|----|--|--|---|
| 30. | Sub Deck/Cross Ties | | 99 | 1 | | | | N |
| 31. | Wearing Surface | | 99 | 1 | | | | N |
| 32. | Deck Joints | | 50 | 20 | 30 | | | N |
| 33. | Curbs/Wheelguards | | 100 | | | | | N |
| 35. | Railings/Parapets | | 99 | 1 | | | | N |
| 36. | Median Barrier | | 99 | 1 | | | | N |
| 37. | Drains/Pipes | | 100 | | | | | N |

APPROACHES :

| | | | | | | | | |
|-----|--------------------|----|----|----|----|----|--|---|
| 39. | Signing/Lighting | 50 | | | | 50 | | N |
| 40. | Roadway Approaches | 80 | 19 | 1 | | | | N |
| 41. | Roadway Flares | | | 50 | 50 | | | N |

1st Abutment Position: E

Year Built: 1961 Estimated? ☐

Length (m): 45.974

Note: - First abutment is EAST as noted from the drawing.

Main Span Length: 15.259

Main Span Type: STRINGER

Spans: 3

Urgency: 4

BCI Rating: 1.93

Adjusted BCI Rating: 2.03

Inspector/Inspected By: Doug Wilson

On 2010/09/21

Amendment/Partial Inspection?

Urgency Notes:

Urgency Rating Note: - repair Impact damage on girder 2K which has a large spall and exposed strands in the bottom flange.

Item Notes:

4 . Substructure Scour East abutment - deep runoff channels in fill under bays 2 and 10.

Condition Inspection Report

DJW

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
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Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

Item Notes:

10 . Pier Columns/Walls/Cribs PIER 1:

East face:

- light delam. near the top at north side of girder 1B.
- below bay 3 - fine vertical crack near the top at north side of girder 1C. Full height med. to wide vertical crack. Fine diagonal crack near top at south of girder 1D.
- below bay 4 - half height (from ground) fine vertical crack.
- large delam. / cracks near top at north of girder 1E.
- large delam. near the top from girder 1F to north end of south pier.
- below girder 1G - large delam. near the top.
- below girder 1H - light delam. near the top.
- full height med. vertical crack at S. of girder 1I.
- medium delam. near the top at N. of girder 1I.
- below bay 10 - full height fine to medium vertical crack.
- large delam. near top at N. of girder 1K.
- below bay 11 - 2 short fine vertical cracks in the upper half of the wall.

West face:

- below bay 3 - full height medium vertical crack. Short diagonal crack near the top at south side of girder 2D.
- below bay 4 - 3/4 height medium vertical crack.
- below bay 5 - short fine / medium diagonal crack at north side girder 2E.
- below bay 8 - full height medium / wide vertical crack at south side of girder 2I.
- below bay 10 - full height fine / medium vertical crack.

Light vegetation sticking out between the ends of girders (north end).

PIER 2:

East face:

- below bay 3 - a wide full height vertical crack.
- fine vertical crack near top at north of girder 2C.
- fine vertical crack near top at south of girder 2D.
- below bay 4 - 1 fine to med. vertical crack approximately half height.
- below bay 5 - short diagonal crack near the top at north side of girder 2E.
- below bay 9 - wide full height vertical crack.
- fine / medium full height vertical crack under girder 2J.
- light delam. near top at north of girder 2K.

West face:

- medium spall / exposed rebar near top under girder 3A.
- large delam. along top corner from south side of girder 3B to south side of girder 3C.
- medium delam. in mid height below girder 3C.
- below bay 3 - wide vertical crack with large delam. in mid height.
- full height medium vertical cracks at north of girder 3I and south of girder 3J.
- small spalls / exposed rebar in mid height at the north end & south end of the north pier.
- lined with 800mm H. no post.
- heavy water staining at girder locations.

11 . Bearings

East abutment - light to medium corrosion on steel rocker plates. Pack rust on sole plates.

Piers 1 & 2:

- grout pad and lead sheet under girders.
- medium corrosion with pack rust on steel sole plates.

West abutment - light to medium corrosion on steel plates. Pack rust on sole plates.

Condition Inspection Report

DJW

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Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

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District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

Item Notes:

17 . Girders

12 precast concrete I beam girders per span.

Span 1:

- dirt and water staining on the outside face of the outside girders under scuppers otherwise OK.

Span 2:

All girders have scrape marks in the underside of the bottom flanges.

- girder 2A - 1 med. to large spall / exposed rebar (previously patched) and 1 light spall / exposed rebar in the south side of the bottom flange near the east intermediate diaphragm (above slow lane). Fine cracks in the web (exterior face) at pier 2.

- girder 2B, south bottom corner - medium spall / exposed rebar at east of east intermediate diaphragm and couple of concrete chips at west of east intermediate diaphragm.

- girder 2C, south bottom corner - light spall at east of east intermediate diaphragm.
 - girders 2F - small patch in south bottom corner beside the east edge of the east intermediate diaphragm.

- girder 2G - couple of light concrete chips in the south bottom flange at east of east intermediate diaphragm. Light patch in bottom flange at west of east intermediate diaphragm.

- girder 2H - some light concrete chips in the south bottom flange at east and west of east intermediate diaphragm.

- girder 2I at east intermediate diaphragm - light concrete chip in the south bottom corner, light spall in north bottom flange.

- girder 2J - light concrete chipping in north and south bottom corner near the east intermediate diaphragm. Scrapes across the underside of bottom flange. 2 tiny impact chips and a small patch in the north bottom corner near the west intermediate diaphragm.

- girder 2K:

- severe impact damage on the north bottom flange above the slow lane. The incident took place on November 17, 2004.

- light to medium spall / exposed rebars in the south bottom corner, heavy scrapes across the underside at the east intermediate diaphragm.

- large spall with exposed corroded strands (one strand has 2 broken wires) and 4 exposed stirrups in the north side bottom flange above the slow lane. The length of the impact damage is about 1200mm.

- a few light impact chips in the north bottom corner at both sides of the west intermediate diaphragm.

- girder 2L - several light impact chips in south bottom corner above the slow lane. 1 light chip in the north bottom corner above the slow lane. Several light concrete chips in north bottom corner above the fast lane.

Span 3:

- girder 3A - fine cracks in the web (exterior face) at pier 2.

- girder 3L - light impact chip in the north bottom corner at above the west shoulder line.

Condition Inspection Report

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Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

Item Notes:

30 . Sub Deck/Cross Ties

Span 1:

- south & north overhangs - rust stains from metal rebar supports.
- bay 2 - 1 diagonal crack / eff. near the abutment.
- bays 4 & 5 - 1 diagonal crack / eff. each near pier 1.

Span 2:

- bays 2 & 3 - light chloride stains between the intermediate diaphragms.
- bay 5 - 1 short transverse crack / eff. near pier 2. Light chloride stains between the intermediate diaphragms.
- bay 7 - short transverse crack near pier 1.
- bay 11 - 2 short transverse cracks / eff. with light chloride stains around in between the intermediate diaphragms.

Span 3:

- bay 6 - 1 transverse crack / eff. near mid span on the north side of the longitudinal joint.
- bay 7 - 1 diagonal crack / eff. near east intermediate diaphragm.
- bay 9 - 1 diagonal crack / eff. near west abutment.
- bay 10 - 1 long & 1 short transverse cracks / eff. near west abutment.
- bay 11 - 1 short transverse crack / eff. near west abutment.

31 . Wearing Surface

Concrete wearing surface with light wear in the travel lanes.

WEST BOUND:

- Span 1 at pier 1 joint:
- lane 1 - light spall in north half of the lane. Couple of small patches in the south wheel path.
- lane 2 - small patch in the south wheel path.
- lane 3 - small patch at the marker of lanes 2 / 3. Medium spall in the north wheel path. Small patch in the middle of the lane. Light spall in south wheel path.

- Span 2:

- lane 1 at pier 1 joint - couple of light spalls in the north half of the lane.
- lane 2 at pier 1 joint - light spall at the marker of lanes 1 / 2. Medium spall in the south wheel path.

- Span 3:

- lane 1 at pier 2 joint - light spall near the fog line.
- lane 2 at pier 2 joint - light spall in the north wheel path.

EAST BOUND:

- Span 1:

- lane 1 at pier 1 joint - light patch in the middle of the lane.

- Span 2:

- lane 1 at pier 2 joint - medium patch in the north half of the lane.

- Span 3:

- lane 1 at pier 2 joint - large patch in the north half of the lane.

32 . Deck Joints

Sawcuts only with sealant at the piers.

PIER 1:

- E/B - long section of sealant missing in all 3 lanes.
- W/B - sections of sealant missing.

Sign of medium to heavy leakage below along the top of the pier shafts.

PIER 2:

- E/B - sealant mostly gone.
- W/B - sections of sealant missing.

Sign of heavy leakage below on the pier shafts at the girder locations.

Condition Inspection Report

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District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

Item Notes:

- 33 . Curbs/Wheelguards Concrete curb of 450mm W x 180mm H with a step of 375mm W x 145mm H for the aluminum railing.
Light scaling on the concrete curb.
- 35 . Railings/Parapets 2 rail aluminum system. 575mm high.
North railing:
- end cap missing at east and west ends of the lower rail.
- top rail has light dent and scrape mark at east of 5th post.
South railing:
- end caps missing in west end of upper & lower rails.
- 36 . Median Barrier 750mm no post concrete barrier.
- 37 . Drains/Pipes Scuppers plugged except in span 1. Dirt building up in the scuppers.
- 39 . Signing/Lighting East approach - W54 only at east end of the north side flare.
West approach - no W54's.
- 40 . Roadway Approaches Fairly new asphalt in all approaches.
EAST APPROACH:
E/B:
- slight gap between ballast wall and the approach.
- lane 1 - short transverse cracks in the wheel paths near deck end. Short transverse crack in the north wheel path at about 1.5 m. from deck end.
W/B:
- slight gap between ballast wall and the approach especially on lane 1 and south half of lane 2.
- lane 2 - some transverse cracks in both sides of the lane near deck end. Short wide transverse crack in the north half of the lane at about 2.5 m. from deck end.
WEST APPROACH:
E/B:
- slight gap between ballast wall and the approach especially on lanes 1 and 2.
- lane 2 - intermittent wide transverse cracks at about 150mm from deck end.
W/B:
- gap of about 50mm along the ballast wall. However, wider gap at the wheel paths of lane 2.
- lane 2 - short transverse crack in the south wheel path at about 1.5 m. from deck end.
- 41 . Roadway Flares EAST approach:
- north side - long 700mm no post - not attached.
- south side - 140mm H. low curb at about 2 m. from bridge end.
WEST approach:
- north side - asphalt curb.
- south side - long 700mm no post at about 8 m. from bridge end.

Item Condition Photos:

Condition Inspection Report

DJW

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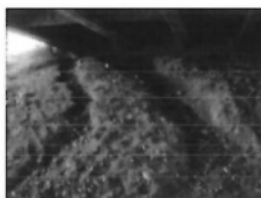
Region: 1 - South Coast Region

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Contract Area: 7 - Fraser Valley CA

Item Condition Photos:

4 Substructure Scour



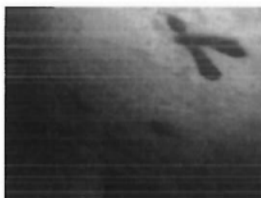
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slope under bay 9-11 medium run
off channel 20090730.JPG

6 Abutments



Filename: 1550 50 west abutment
bearing area 20090730.JPG

7 Wing/Retaining Walls



Filename: 1550 52 west abutment
north wind wall with map cracks
20090730.JPG

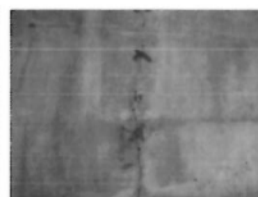
10 Pier Columns/Walls/Cribs



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face 20090730.JPG

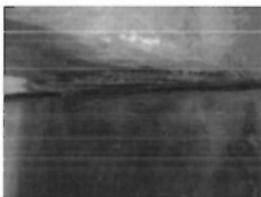


Filename: 1550 35 pier one east
side medium delams under girder
E, F and G 20090730.JPG

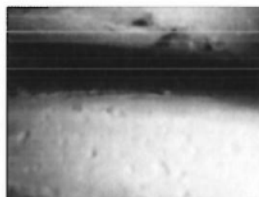


Filename: 1550 40 pier two east
face under girder I a medium to
wide full height vertical crack
20090730.JPG

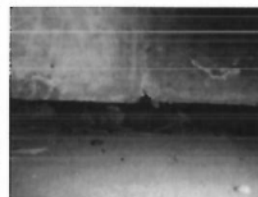
11 Bearings



Filename: 1550 38 pier one bearing
2D with medium corrosion on sole
plate 20090730.JPG



Filename: 1550 51 west abutment
bearing A laminated elastomeric
bearing 20090730.JPG



Filename: 1550 27 east abutment
bearing B with light to medium
corrosion on masonry plate
20090730.JPG

Condition Inspection Report

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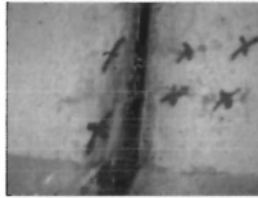
Region: 1 - South Coast Region

District: 1 - Lower Mainland District

Contract Area: 7 - Fraser Valley CA

Item Condition Photos:

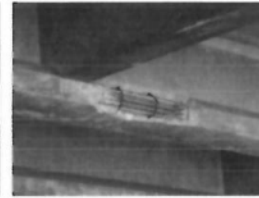
17 Girders



Filename: 1550 42 pier two girder 2A with fine horizontal cracks and girder 3A with a vertical fine crack at end 20090730.JPG

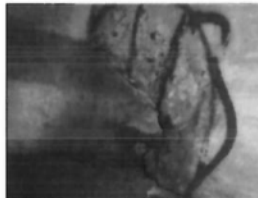


Filename: 1550 39 span 2 girders on the south side with impact spalling and chips on bottom flange 20090730.JPG

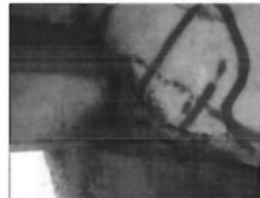


Filename: 1550 43 span 2 girder 2K north bottom flange a big spall with full exposed prestressed strands and stirrups. 20090730.JPG

19 Bracing/Diaphragms

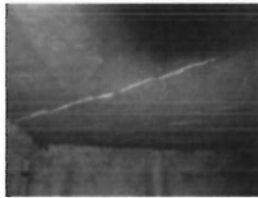


Filename: 1550 34 pier one east diaphragm north of girder C a medium spall with corroded rebar 20090730.JPG



Filename: 1550 32 pier one east diaphragm north of girder A a big delam with rust stain 20090730.JPG

30 Sub Deck/Cross Ties



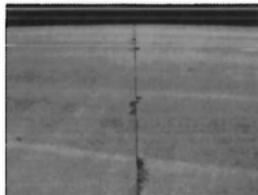
Filename: 1550 30 span 1 subdeck bay 2 a diagonal crack with efflorescence 20090730.JPG

31 Wearing Surface



Filename: 1550 14 sawcut joint over pier 2 at east bound 20090730.JPG

32 Deck Joints



Filename: 1550 11 sawcut joint over pier 1 at west bound 20090730.JPG



Filename: P6140304 pier 1 sawcut joint WB lanes .JPG

Condition Inspection Report

DJW

Criteria: Structure No = 01550 - Include Inspection Condition Photos = Y
 - Include Additional Blank Lines for Notes = N - Show Not Applicable Components = N

Structure No: 01550 - HUNTINGDON O/P

Status: Open/In Use

Inspection Type: Routine Condition

Region: 1 - South Coast Region

District: 1 - Lower Mainland District

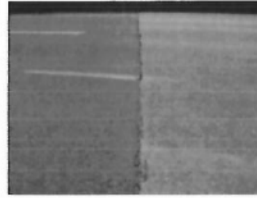
Contract Area: 7 - Fraser Valley CA

Item Condition Photos:

40 Roadway Approaches



Filename: 1550 21 west abutment
joint (no joint) at west bound
20090730.JPG



Filename: 1550 8 east abutment
joint (no joint) at west bound
20090730.JPG

Inspection Notes:**Drainage Area Description**

HIGHWAY OVERPASS

Rehab Work Notes

Concrete overlay but date not noted.

1995 - West abutment modified to allow traffic lanes between the pier and the abutment.

Work needs to be done on the up slope approach and exit (EB and WB) to get the water away before it gets to the bridge.

Maintenance Work Notes

July 30, 2009

2. Bank / Bed Scour - place rock and gravel at the east abutment (esp. below bay 10) to prevent runoff scour.

5. Abutments - seal cracks.

6. Wing Walls - repair delam. in the north wing wall of the west abutment.

8. Pier Columns:

- epoxy inject cracks and repair spalls.
- flush clean the top at both ends of the piers.

9. Bearings - clean and coat bearings.

14. Girders - repair impact damage.

16. Diaphragms - repair spalls / delams. in bottom corners.

28. Wearing Surface:

- repair potholes.
- sweep dirt / garbage along the north curb (W/B).

29. Deck Joints - reseal sawcut joints.

37. Approaches - seal cracks.

Sept. 21, 2010

no change over the last detailed inspection

Bridge Inspection Condition: FIELD BOOK 2013

- Bridges
- Culverts
- Tunnels/Snow Sheds
- Sign Structures
- Suspension Cables
- Retaining Walls



Ministry of
Transportation
and Infrastructure

3.0 URGENCY DEFINITIONS FOR BRIDGES & SUSPENSION/CABLE-STAYED SPANS

3.0 URGENCY DEFINITIONS FOR BRIDGES AND SUSPENSION/CABLE-STAYED SPANS

(Also used as a guide for Culverts, Tunnels, and Signs)

'Urgency Definitions' describes the classifications used to indicate priority of repair for each structure. It is also used for culverts, sign structures and tunnels.

BAS II Urgency Rating Definitions for Bridge or Suspension/Cable-stayed Span, Sign structures, and Tunnels

1 No Repairs, No Safety Concern

Strength: Structure retains its original design load carrying capacity and requires no repairs at this time.

Safety: There is no safety concern on the structure.

2 Non Structural Repairs, No Safety Concern

Strength: Structure retains its original design load carrying capacity but requires non structural repairs.

Safety: There is no safety concern on the structure.

3 Minor Structural Repairs, Minor Safety Concern

Strength: The structure's design load carrying capacity may be reduced to a minor extent; the structure requires some minor structural repairs.

Safety: There may be a minor safety concern on the structure.

4 Moderate Priority Structural Repairs, Moderate Safety Concern

Strength: The structure's design load carrying capacity is reduced to a moderate extent but no load posting is yet being considered; the structure requires moderate priority structural repairs to remain in long term service.

Safety: There is a moderate safety concern.

5 High Priority Structural Repairs, Significant Safety Concern

Strength: The structure's design load carrying capacity is reduced significantly; a load posting has been applied or is being considered*; the structure requires high priority structural repairs to remain in service.

Safety: There is a significant safety concern.

* Bridges that are structurally sound but were designed to a non-current standard, or were built without site-specific engineering and do not meet current standards, should be rated on their current condition. The urgency rating will be based on the Bridge Area Manager's assessment during the inspection (an urgency of 5 does not need to be applied automatically to a bridge that has been load-posted).

3.1 URGENCY DEFINITIONS FOR RETAINING WALLS

3.1 URGENCY DEFINITIONS FOR RETAINING WALLS

This describes the classifications used to indicate priority of repair for each structure. It is only used for retaining walls.

NOTE: Urgency rating pertains solely to affect on the roadway or effect on property below the wall! Retaining walls exist that require major repairs but have little safety concerns at the roadway level or property below; these walls do NOT have a "high" Urgency rating. Only walls requiring major repairs with safety concerns to road users or property below should be rated as a "high" Urgency rating.

BAS II Urgency Rating Definitions for Retaining Walls

1 No Repairs, No Safety Concern

Strength: Structure retains its original stability and requires no repairs at this time.

Safety: There is no safety concern on the structure.

2 Non Structural Repairs, No Safety Concern

Strength: Structure retains its original stability but requires non-structural repairs.

Safety: There is no safety concern on the structure.

3 Minor Structural Repairs/Stability Remediation, Minor Safety Concern

Strength: The structure's stability may be reduced to a minor extent; the structure requires some minor structural/stability repairs.

Safety: There may be a minor safety concern on the structure.

4 Moderate Priority Structural Repairs/Stability Remediation, Moderate Safety Concern

Strength: The structure's stability is reduced to a moderate extent the structure requires moderate priority structural repairs or stability remediation to remain in long term service.

Safety: There is a moderate safety concern

5 High Priority Structural Repairs/Stability Remediation, Significant Safety Concern

Strength: The structure's stability is reduced significantly; the structure requires high priority structural/stability repairs to remain in service.

Safety: There is a significant safety concern.